

(PCT Article 36 and Rule 70)

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| Date of submission of the demand | Date of completion of this report |
| Name and mailing address of the IPEA/EP | Authorized officer |
| Facsimile No. | Telephone No. |

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/051054

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This report is based on translations from the original language into the following language _____ which is the language of a translation furnished for the purposes of:
 - ☐ international search (Rule 12.3 and 23.1(b))
 - ☐ publication of the international application (Rule 12.4)
 - ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
 - ☐ the international application as originally filed/furnished
 - ☒ the description:
 - pages 3, 4 _____ as originally filed/furnished
 - pages* 1, 2, 2a _____ received by this Authority on 07.06.2005 with letter of 06.06.2005
 - pages* _____ received by this Authority on _____
 - ☒ the claims:
 - nos. _____ as originally filed/furnished
 - nos.* _____ as amended (together with any statement) under Article 19
 - nos.* 2-7 _____ received by this Authority on 14.02.2005 with letter of 09.02.2005
 - nos.* 1 _____ received by this Authority on 07.06.2005 with letter of 06.06.2005
 - ☒ the drawings:
 - sheets 1/1 _____ as originally filed/furnished
 - sheets* _____ received by this Authority on _____
 - sheets* _____ received by this Authority on _____
 - ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☒ The amendments have resulted in the cancellation of:
 - ☐ the description, pages _____
 - ☒ the claims, nos. 8, 9 _____
 - ☐ the drawings, sheets/figs _____
 - ☐ the sequence listing (specify): _____
 - ☐ any table(s) related to sequence listing (specify): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
 - ☐ the description, pages _____
 - ☐ the claims, nos. _____
 - ☐ the drawings, sheets/figs _____
 - ☐ the sequence listing (specify): _____
 - ☐ any table(s) related to sequence listing (specify): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/051054

| Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement | | |
|--|---|---------------|-----|
| 1. Statement | | | |
| Novelty (N) | Claims | <u>1 to 7</u> | YES |
| | Claims | | NO |
| Inventive step (IS) | Claims | | YES |
| | Claims | <u>1 to 7</u> | NO |
| Industrial applicability (IA) | Claims | <u>1 to 7</u> | YES |
| | Claims | | NO |
| 2. Citations and explanations (Rule 70.7) | | | |
| 1. Technical field: | | | |
| The invention concerns an angular rate sensor with a vibration gyroscope. | | | |
| 2. Prior art: | | | |
| Reference is made to the following documents: | | | |
| D1: EP-A-1 189 025; BEI TECHNOLOGIES INC.; 20 March 2002 | | | |
| D2: US-A-5 617 176; OLYMPUS OPTICAL CO. LTD.; 1 April 1997 | | | |
| D3: DE-A-43 40 719; SIEMENS AG; 1 June 1995 | | | |
| D4: DE-A-42 42 557; MOTOROLA INC; 16 October 1997 | | | |
| 3. Independent claims: claim 1 (device). | | | |
| 4. Novelty - PCT Article 33(2): | | | |
| Document D1, which is considered the prior art closest to the subject matter of claim 1, discloses an angular rate sensor with a vibration | | | |

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|-----------|---|
| | <p>gyroscope (tuning fork gyroscope 11) and circuits for operating the vibration gyroscope and for evaluating angular rate signals. Said circuits access modifiable data which is stored in a writable, non-volatile memory (EEPROM 26) (see, e.g., column 1, line 58 to column 4, line 13 and figure 1). The data is, for example, data for adjusting the angular rate sensor or production data. Said data, following calibration, is stored during production in the EEPROM, the data still being modifiable at that time, and then being read out during operation (that is once the sensor has been switched on) (see, e.g., column 9, line 26 to column 12, line 58 and figures 8-10). The data is divided into groups in the memory (see, e.g., column 11, paragraph 78 and figure 9). Data security measures are also disclosed in document D1 (see, e.g., column 10, lines 1-43 and column 11, lines 26-38 and figure 9). Document D1 also indicates that an RS-232 serial protocol is used to write the EEPROM memory (see, e.g., column 12, paragraph 83). This means that the individual data items are written into the memory at different times. Serial access, however, clearly also means that the data items of the individual groups are written or read into the memory independently of each other. It is also possible to subsequently re-programme the EEPROM memory, for example during maintenance or repair work, using a special programming mode (see, e.g., column 11, paragraph 80 to column 12, paragraph 85).</p> |

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

The subject matter of independent claim 1 differs from the closest prior art according to document D1 in that a check sum is formed from the data for each group, is stored in the non-volatile memory and is used for checking when reading. The subject matter of independent claim 1 is thus novel.

5. Inventive step - PCT Article 33(3)

The present application does not meet the requirements of PCT Article 33(3) because the subject matter of claims 1 to 7 does not involve an inventive step (PCT Rule 65(1) and (2)) for the following reasons:

- 5.1** The feature of forming a check sum for data checking is only one of several obvious possibilities from which a person skilled in the art would choose according to the circumstances in order to solve the problem of interest (establishing data security), without thereby being inventive.

A person skilled in the art would be generally aware that this feature is equivalent to the feature known from document D1 concerning redundant data storage and could be interchanged therewith if necessary (if, for example, there is a need to use less storage space). The subject matter of independent claim 1 is not inventive.

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**5.2 Dependent claims 2 to 7:**

The features of dependent claims 2 to 7 can either also be taken from document D1 (see, e.g., column 1, line 58 to column 4, line 13; column 9, line 26 to column 12, line 58 and figures 1 and 8-10) or disclose minor modifications of or extensions to the device described in independent claim 1, of the kind that a person skilled in the art routinely makes on the basis of familiar considerations, especially since the resulting advantages are readily foreseeable. Consequently, the subject matter of claims 2 to 7 does not involve an inventive step.

6. Industrial applicability - PCT Article 33(4)

The invention claimed in claims 1 to 7 is industrially applicable in the field of angular rate sensors.

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Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

Independent claim 1 is not drafted in the correct
two-part form in relation to document D1 (PCT Rule
6.3(b) .